238. There is a third crucial distinction between Market Street Railway's predicament and the regulatory situation currently facing incumbent LECs. The regulatory body in *Market Street Railway* apparently was making a good faith attempt to improve the company's competitive position to the extent feasible in the face of overwhelming competition from other providers. There was no expectation or requirement, however, that the private railway company would be forced to share its bottleneck infrastructure with the municipal railway or other private transportation companies without adequate compensation for forgone revenues or recovery of its sunk costs. In contrast, unbundling of the local exchange envisions an otherwise solvent incumbent firm being mandated to provide competitors access to its reticulation infrastructure. Had the commission in *Market Street Railway* imposed similar requirements on the company—for example, by forcing it to make its tracks available to the city's cars or its own idle cars available to the city for use on the city's lines—and had the industry otherwise been healthy, the Court would presumably have reached a different result.

239. Finally, *Market Street Railway* may be distinguishable as a case of opportunistic behavior by the city in its operation of the municipal railway. The private company competed on some routes against the municipally owned railway, which wanted to expand by acquiring the company's routes. Further, the company charged a higher price than the city line yet was still losing money, which suggests that the city might have been subsidizing its incremental cost of operation through tax receipts—which no private company, of course, could do. The Court paid little attention to the city's competitive privileges. Perhaps it ignored the issue in the recognition that municipalization of the private railway was the only way to preserve the streetcar industry.

IX. The Joint Liability of State and Federal Governments Created by the Jurisdictional Separation of the Incumbent LEC's Common Costs

240. Our economic and legal analysis of the regulatory contract and of deregulatory takings implies that the LEC is entitled to receive the reasonable opportunity to recover *all* of its common costs.

That obligation on the part of regulators does not depend on whether the common costs are classified as forward-looking or historic. Rather, the firm should receive the opportunity to recover the costs of discharging its past, current, and future regulatory obligations. Nor does the obligation depend on whether the common costs have been divided into two categories labelled "interstate" and "intrastate." As the name implies, common costs are common to the overall activities of the LEC. The arbitrary assignment of *X* percent of those common costs to services regulated at the state level and *Y* percent to services regulated at the federal level does not alter in any way the essential commonality of those costs.

241. The separations process was an arbitrary decision jointly made by the states and the federal government to advance shared goals concerning the structure of rates. As such, it was a modification of the regulatory contract described in detail in Part IV of this affidavit. The practical effect of the jurisdictional separation of the common costs of the LEC was to interpose the federal government (represented by the FCC) as a party to the preexisting contract between the state and the LEC. The allocation by state and federal regulators of a substantial share of the LEC's common costs to the interstate side of its books necessarily carried with it the representation—implied if not explicit—that the FCC would afford the LEC the reasonable opportunity to recover, through its sale of interstate access at regulated rates, that portion of common costs (both operating costs and capital costs) that had been jurisdictionally designated as "interstate" in character.

242. For the FCC to price interstate access at TSLRIC would produce a massive shortfall in contribution to the recovery of that portion of common costs that have been jurisdictionally characterized as "interstate." The incumbent LEC cannot offset that shortfall with "excess profit" earned on its intrastate activities. On the intrastate side, the states (through their unbundling arbitrations) and the FCC (through the *First Report and Order*, if lawful) have already taken steps that will foreclose the recovery of the LEC's full forward-looking costs. Needless to say, if the incumbent LEC cannot recover all its forward-looking costs, it will be precluded from fully recovering its historic costs of investments that

were not fully depreciated when Congress abolished entry restrictions into local markets and mandated the sale of unbundled access to the local exchange network. Moreover, neither the states nor the FCC so far have provided any competitively neutral mechanism for the incumbent LEC to recover either the forward-looking or historic component of its stranded costs. In short, the revenues from the intrastate side of the incumbent LEC's operations will fail to recover the portion of common costs jurisdictionally characterized as "intrastate." It follows *a fortiori* that intrastate services will be unable to offset the revenue shortfall on the interstate side that would result from the FCC's repricing of access at TSLRIC-based levels and its failure to impose a competitively neutral and nonbypassable charge on purchasers of access that preserved the previous level of contribution to the recovery common costs.

243. Even if the FCC were to set access prices above TSLRIC, the ability of competing carriers to arbitrage TSLRIC prices for local interconnection would drive interstate access prices to TSLRIC also. This outcome is analogous to what has been observed in case of unbundling of network elements, where the binding constraint on an incumbent LEC's price of an unbundled loop is the stand-alone cost of the least expensive competitive alternative, which often is the incumbent LEC's own two-wire private-line tariff. Thus, the intrastate outcome concerning the incumbent LEC's pricing of interconnection (or terminating access) constrains cost recovery on the interstate side as well, regardless of how state and federal regulators might have originally intended the process of jurisdictional separation of common costs to work.

244. Consequently, the federal government and the states should be jointly liable for the taking that will occur if an end-user charge is not adopted as part of access "reform" and if that charge is not sufficient to afford the LEC a reasonable opportunity to recover all of its historic costs and all of its forward-looking common costs. Here it is useful to distinguish between the outcomes that one might expect under a legal theory of recovery predicated on the regulatory contract and a legal theory predicated on takings jurisprudence. If an incumbent LEC were to challenge the revenue inadequacy of access

"reform" as a breach of the regulatory contract, it would sue both the state government and the federal government for breach. The state might assert that, as a constitutional matter, it was compelled by the supremacy of the federal government to acquiesce to the FCC's modification of the regulatory contract. The federal government, in turn, would surely invoke sovereign immunity, which might or might not shield the federal government from liability, depending on whether or not the Supreme Court's 1996 decision in *Winstar* signals a major shift in Court's view of the enforceability of the federal government obligations. If the federal government could indeed invoke immunity from a claim of breach of the regulatory contract, the state would then bear the full responsibility for compensating the incumbent LEC. The state might seek indemnification from the federal government, but that claim would have no greater likelihood of success than the incumbent LEC's own contract claim against the federal government, which we have assumed to have been thwarted. Thus, if the FCC were to defeat a claim for breach of the regulatory contract, it would be because the agency was able to dump the liability for the recovery of common costs onto the states in which the LEC in question provided intrastate services.

245. The outcome under a takings theory would be different. The federal government could not escape liability because the LEC would bring its claim under the Takings Clause of the Fifth Amendment. The state or states with which the FCC had jurisdictionally separated the common costs of the LEC in question could also be sued under the federal Takings Clause (as well as under the takings clauses of the applicable state constitutions, which might be even more protective of property).

X. CONCLUSION

246. The reform of access charges is an essential step toward the evolution of a competitive marketplace for telecommunications services. Economic efficiency requires correct pricing of network access. Network access provided by incumbent LECs competes with access provided by facilities-based competitors and with access that is supplied through the use of unbundled network elements. Because competing carriers have an incentive to choose the least-cost means of securing network access, access

prices charged by incumbent LECs cannot diverge from market prices for access.

247. To achieve its goal of fostering competition, the Commission should actively pursue an approach that is "market-based" in more than name only. If, on the other hand, the Commission constrains access prices, those constraints should nonetheless allow the incumbent LEC to recover its economic costs of providing access, including opportunity costs and the returns to scarce capacity—which are needed to allocate capacity and to provide incentives for the incumbent LEC to maintain and invest in that capacity.

248. Access reform should imply a reduction in regulation. It should not imply increased regulatory controls, as the *Notice* proposes. The Commission should be willing to let regulation recede as competition progresses. To do so will require the Commission to eschew the interventionist policies of either its misnamed "market-based" approach or its prescriptive approach. Moreover, the Commission should not impose, through this or any other proceeding, "competitive triggers" that merely reprise the confiscatory pricing proposals contained in the *First Report and Order*. If adopted, the competitive triggers proposed in the *Notice* would contribute to the creation of a burdensome regulatory process that would require the incumbent LEC to face a new "checklist" every time that it sought to adjust a price or offer a new service. An invasive regulatory regime of that sort certainly would not constitute deregulation, and it could only impede the evolution of a truly competitive marketplace for telecommunications services.

249. The transition to a system of access pricing based on economic cost does not release the state and federal governments from their obligations under the regulatory contract to allow the incumbent LEC a reasonable opportunity to recover its full economic costs. Rather, competitively neutral and nonbypassable charges, imposed on end users or on providers of interexchange services, are required to supplement access prices so as to ensure that the incumbent LEC does indeed receive the bargained-for

opportunity to recover the costs that it incurred to discharge its past, present, and (if necessary) future regulatory obligations. If the Commission were to breach the regulatory contract in the name of achieving access charge "reform," then the incumbent LEC would be entitled to recover—under both contact principles and takings jurisprudence—its lost expectation of recovery of it economic costs.

250. The *Notice* proposes to base regulated prices for access on TSLRIC plus a "reasonable share of common costs," where that share is determined by arbitrary administrative mechanisms, such as fully distributed cost pricing or "reverse Ramsey" pricing. If the Commission were to adopt that proposal, it would cause access to be priced inefficiently. That result would impede the ability of incumbent LECs to compete for access, and it would create incentives for inefficient investment decisions and inefficient use of existing network capacity.

251. To avoid committing an uncompensated taking of property in violation of the Fifth Amendment, the Commission must ensure that, when it promulgates new regulations for the efficient pricing of interstate access, the agency simultaneously promulgates regulations that establish a competitively neutral and nonbypassable charge, to be imposed on end users or providers of interexchange services, which allows the incumbent LEC to recover all of its common costs, both forward-looking and historic, and not merely some subset of those costs that has been labelled "interstate" or "intrastate" as the result of an arbitrary convention of regulatory accounting. The obligation to provide the incumbent LEC the reasonable opportunity to achieve full recovery of such costs is the joint responsibility of the federal government and the respective states as they implement policies to reform access pricing.

* * *

I hereby swear, under penalty of perjury, that the foregoing is true and correct, to the best of my knowledge and belief.

J. Gregory Sidak

J. Gregory Sidak

Subscribed and sworn to before me this 22nd day of January, 1997.

Notary Public

My Commission expires: July 31, 1999.

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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

ATTACHMENT 3

USTA Comments
CCB/CPD 98-12
March 18, 1998

ATTACHMENT 2

Reply Affidavit of
J. Gregory Sidak and Daniel F. Spulber

USTA Reply Comments
CC Docket No. 96-262
February 14, 1997

BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION

In the Matter of	)	
	)	
Access Charge Reform	)	CC Docket No. 96-262
	)	
Price Cap Performance Review for Local Exchange Carriers	)	CC Docket No. 94-1
	)	
Transport Rate Structure and Pricing	)	CC Docket No. 91-213
	)	
Usage of the Public Switched Network by Information Service and Internet Access Providers	)	CC Docket No. 96-263

**REPLY AFFIDAVIT OF
J. GREGORY SIDAK AND DANIEL F. SPULBER**

J. Gregory Sidak and Daniel F. Spulber, being duly sworn, depose and say:

1. Our names are J. Gregory Sidak and Daniel F. Spulber. Sidak is the F. K. Weyerhaeuser Fellow in Law and Economics at the American Enterprise Institute for Public Policy Research and a senior lecturer at the Yale School of Management. Spulber is the Thomas G. Ayers Professor of Energy Resource Management and Professor of Management Strategy at the J. L. Kellogg Graduate School of Management, Northwestern University. A complete description of our professional qualifications appears in the affidavit that we filed on behalf of the United States Telephone Association (USTA) in this proceeding on January 29, 1997.

2. At USTA's request, we evaluate here the initial comments and expert testimony of various companies that (1) oppose a market-based approach to the pricing of interstate access, or (2) dispute the necessity of giving incumbent local exchange carriers the reasonable opportunity to recover their full economic costs of providing interstate access, or (3) assert that the Commission's failure to allow the incumbent LECs the reasonable opportunity for such cost recovery would not violate the Takings Clause

of the Fifth Amendment to the U.S. Constitution. In particular, we respond to the analysis of Professors William J. Baumol, Janusz A. Ordover, and Robert D. Willig, who have filed an affidavit on behalf of AT&T Corporation; the statement of Professor John E. Kwoka, Jr., on behalf of MCI Communications Corporation; and the comments of AT&T, MCI, the Ad Hoc Telecommunications Users Committee, and the Competitive Telecommunications Association.

3. We present this reply affidavit in our individual capacities, and not on behalf of the American Enterprise Institute, the Kellogg Graduate School of Management, or the Yale School of Management.

EXECUTIVE SUMMARY

4. In the thousands of pages of comments filed in this proceeding, the following paragraph contains the most remarkable assessment of the Commission's analysis of markets and competition in the provision of interstate access:

> In sum, the Commission has its terminology backwards: The so-called "market-based" approach is not market based because no competitive access "market" yet exists. And the "prescriptive" approach is "market-based" because it represents the only mechanism by which to create genuine competition and insure competitive market-based prices.[1]

This argument, advanced by AT&T, can be summarized in the slogan, "Regulation Is Competition." Such a proposition exemplifies what George Orwell, in his novel *1984*, called *doublespeak*.[2] Markets for interstate access that already exhibit dozens of rivals cannot be redefined as "nonexistent." Regulators do not make demonstrably competitive markets more competitive by regulating them more heavily. Nor, as AT&T urges, can the Commission's commitment to LEC price caps for interstate access be disregarded by euphemistically calling the repudiation of existing caps "reinitialization."[3] Nor can the historic costs of providing network infrastructure, or the cost characteristics that inhere to such a network

1. Comments of AT&T Corp. at 7.
2. GEORGE ORWELL, 1984 (Signet Classic 1949).
3. Comments of AT&T Corp. at 22.

on a going-forward basis for the remainder of its useful life, be said not to have been "prudent" or "efficient" when asset-specific investments were made, or not to have resulted from a bargain struck between regulators and the LEC. Nor do the common costs of operating a local exchange network disappear by saying that a LEC is now in the business of selling elements rather than services, and that elements have few if any costs in common with one another. These are all examples of attempts to rewrite history and contort economic logic and terminology to produce results that would turn the sound application of economic principles on its head. They embody the sort of circumlocution and subversion of reason that has come to be described by the adjective *Orwellian*.[4]

5. In this reply affidavit we make four main points. First, a number of significant commenters—including AT&T, MCI, WorldCom, the Florida Public Service Commission, and the Ad Hoc Telecommunications Users Committee—advocate greater regulation of the market for interstate access. Second, those commenters ignore the adverse economic consequences for consumers and incumbent LECs that would result from the Commission's imposition of TELRIC pricing for interstate access if such pricing were not accompanied by a competitively neutral and nonbypassable charge sufficient to meet the incumbent LEC's shortfall in its ability to recover its full economic cost of providing service. Third, the opposing commenters do not understand the legal and economic basis for ensuring that the incumbent LEC receives a reasonable opportunity to recover its economic costs, nor do those commenters correctly comprehend what it means for a LEC to have received that reasonable opportunity. Fourth, the opposing commenters superficially toss around dismissive citations to takings cases, never giving the constitutional issues presented by this proceeding the analysis that they demand.

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4. *See* PETER HUBER, ORWELL'S REVENGE: THE *1984* PALIMPSEST (Free Press 1994).

I. TELRIC PRICING OF ACCESS DOES NOT REFLECT ECONOMIC COSTS

6. In their efforts to achieve lower interstate access prices for themselves, AT&T and other commenters argue the following:

- examination of access costs should be based on incremental costs of inputs rather than access services (for example, TELRICs rather than TSLRICs)
- the costs of only four important elements used to provide access should be considered, but not the many other relevant elements
- there should not be any share of joint and common costs of the incumbent LEC included in access pricing
- that the cost of the loop should not be included in access pricing
- that the Commission should "reinitialize" price caps at a lower level based on the TELRIC pricing methodology

On numerous grounds, the proposals of AT&T and other commenters rest on fallacious economic reasoning. We examine here the most common fallacies.

A. TELRIC Pricing Revisited

7. Professors Baumol, Ordover, and Willig argue that "prices for exchange access elements must be set at forward-looking, long-run, incremental costs."[5] They clarify their meaning by stating that access prices will continue to be "distorted," "unless the Commission embraces the TELRIC standard for access rates."[6] By returning to TELRIC pricing, AT&T takes an extreme position that differs from the Commission, which recognizes that prices must include a reasonable share of common costs. The Commission divides costs into incremental cost (TSLRIC or TELRIC) and common costs, and it proposes a definition of "economic cost" that consists of incremental cost plus a share of common cost:

> The first condition we propose is that unbundled network elements be available at forward-looking economic cost, i.e., on the basis of the TELRIC of the network element . . . , plus a reasonable allocation of common cost. Unbundled elements provide a

5. Affidavit of William J. Baumol, Janusz A. Ordover, and Robert D. Willig 7 ¶ 13, *attached to* Comments of AT&T Corp. [hereinafter Baumol-Ordover-Willig Affidavit].

6. *Id.* at 7 ¶ 14.

ubiquitous substitute for access service.[7]

As we have already pointed out in our earlier affidavit, the problem with TSLRIC- or TELRIC-based pricing generally is that it does not equal economic costs and therefore creates economic inefficiencies. It follows with greater force that simply pricing access at TELRIC, without any recovery of common costs, compounds the problems that we already described.

1. TELRIC Pricing Does Not Reflect the Incumbent LEC's Total Direct Costs

8. The incremental cost of production is of value to the firm when it makes decisions comparing incremental revenue with incremental cost. Because a multiproduct firm has shared costs and common costs, however, TELRIC pricing does not provide a complete picture of the firm's direct costs.

9. Certainly, there are circumstances in which TELRIC pricing equals the firm's economic costs of production. If the firm provides only one service, then the incremental cost and stand-alone cost of the service are equal, and incremental pricing provides an accurate estimate of the firm's costs of production. If the firm provides multiple services, but the services have no shared costs or common costs—that is, there are no economies of scope—then incremental-cost pricing provides an accurate estimate of the costs of production. Those circumstances do not describe the technology and cost of local exchange telecommunications, however.

10. If all of the firm's services were to be sold at their TELRICs, then the firm would not cover its total costs. The difference between a firm's total costs and the sum of that firm's incremental costs is equal to the firm's shared costs and common costs. Thus, under TELRIC pricing the firm would incur losses exactly equal to that remainder—that is, the firm's shared costs and common costs.

11. The firm's shared costs and common costs are precisely its economies of scope, which means that they are the firm's efficiency gains from jointly producing multiple services. To price without regard to those costs is to penalize a firm for its efficiencies.

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7. *Notice* ¶ 169.

12. Because TELRIC pricing fails to recover any of the incumbent LEC's shared costs or common costs, it interferes with the incumbent LEC's opportunity to earn a fair rate of return on its investment or even to recover its investment. That outcome violates section 252(d)(3), added to the Communications Act in 1996, which calls for the firm to recover its costs, with pricing that may include a reasonable profit.[8] TELRIC pricing *guarantees* losses and thus is inherently confiscatory. A policy that required TELRIC pricing would therefore violate section 252(d)(3) and constitute a taking.

13. Some would suggest that the firm subject to TELRIC pricing can make up its losses elsewhere, perhaps from retail sales or from the "next fertile field" that the incumbent LEC may enter in the newly deregulated environment. Although appealing on the surface, such a suggestion requires that earnings from other services be sufficient to cover shared costs and common costs. Such an unfounded belief can easily fail to correspond to market conditions. Competition need not lower margins on those services identified by competitors in their unbundling requests; it is just as likely to do so on the remaining services. Indeed, with TELRIC pricing, competitors are most likely to purchase those services that would have a markup in a competitive market, so as to free-ride on the incumbent LEC. Competitive firms are able to stay in business when they recover common costs and shared costs through revenues above incremental costs. The market-allowed contribution of "other services" cannot be predicted *a priori*. What *is* certain is that a firm that does not cover its common costs and shared costs will not remain in business for very long.

2. TELRIC Pricing Subsidizes Entrants

14. Some proponents of TELRIC pricing may argue that prices set at TELRIC do not involve cross-subsidies, so that TELRIC pricing would rebalance rates. That claim is false. The incremental cost test for cross-subsidization requires that each service, *and each combination of services*, must cover its

8. 47 U.S.C. § 252(d)(3).

incremental cost.[9] That outcome easily fails to occur with TELRIC pricing as soon as the firm produces more than two services and any group of services has shared costs. This result is illustrated by the following example with three services:

Incremental cost of service *A*	=	$1
Incremental cost of service *B*	=	$1
Incremental cost of service *C*	=	$1
Shared cost of service *A* and *B*	=	$5
Total cost of all services	=	$8

The example shows that the incremental cost of services *A* and *B* taken together is $1 + $1 + $5 = $7. TELRIC pricing would set the price of each service at $1. Services *A* and *B* taken together would have revenues of $2, which would fail to cover their $7 incremental cost. Thus, TELRIC pricing creates cross-subsidies.

15. In a general sense, TELRIC pricing creates cross-subsidies when multiple services are available that have shared costs or common costs. Those costs do not magically disappear. Failure to cover those costs makes those services available collectively at less than their total costs.

16. What are the consequences of cross-subsidization? Entrants will make efficient decisions about the mix of resale and facilities-based competition only if their access to existing networks is provided at prices that accurately reflect economic costs. Subsidizing services by pricing them at TELRIC sends the wrong price signals and leads to incorrect decisions. When prices are too low, excessive use of underpriced facilities will result and distort the decisions of resellers. The entry and expansion of resellers is thus not only encouraged, but also financed by underpriced facilities.

17. Moreover, when network services are priced too low, the building of competing facilities

9 *See, e.g.*, WILLIAM J. BAUMOL & J. GREGORY SIDAK, TOWARD COMPETITION IN LOCAL TELEPHONY 69–72 (MIT Press & AEI Press 1994).

is likely to be discouraged. Thus, rather than stimulating facilities-based competition. TELRIC pricing discourages it. Why should an entrant seek a competitively priced alternative when it can free-ride on the incumbent LEC's facilities at prices that are below cost? TELRIC pricing turns out to be a misnomer: It should more appropriately be termed "individual-service LRIC," for it ignores the incremental costs of *combinations* of services.

18. Indeed, the problem is compounded by unbundling "at any technically feasible point," as envisioned by the Telecommunications Act.[10] Finer and finer partitioning of services wrings out the shared costs from TELRIC prices and thus increases the subsidies inherent in such pricing. In the limit, the finer partitioning of services creates TELRIC prices that will not cover the incremental costs of *any* pair or group of services that have shared costs.

3. TELRIC Pricing Creates Incentives for Excessive Unbundling

19. TELRIC pricing creates incentives for excessive unbundling because it ignores that unbundling shifts costs from attributable costs to shared costs and common costs. A firm cannot apply any pricing methodology independently of the characteristics of the products and services for which prices are being chosen. On the demand side, the characteristics of the products and services will affect the willingness of consumers to pay for those products and services. On the supply side, if the firm sets prices subject to regulatory controls based on its costs of service, then the definitions of the products and services will significantly affect the costs that are attributable to those products and services.

20. The pricing methodology that regulators adopt for interstate access, as well as for resale and unbundled network elements, should be flexible enough to adapt to the regulations governing the extent of unbundling. Efficient and compensatory pricing must allow the firm to recover its economic costs, including both its attributable costs and its unattributable costs—namely, its shared costs and common costs.

10. 47 U.S.C. § 251(c)(3).

21. The measurement of costs depends on the definition of the firm's services. For a multiproduct firm, changes in the definition of classes of services and individual services will affect measures of incremental cost. Generally speaking, the more services that are defined by subdividing sets of services, the lower the attributable costs of individual services, and the higher the shared costs and common costs of those services. Without any increase or decrease in total costs, it is simply more difficult to identify the attributable costs of a particular service as one moves toward higher levels of disaggregation in the classification of services.

22. Suppose, for example, that a company produces services that are grouped into two categories, A and B, and each category of services is sold as a bundle. The average incremental cost of category A is \$10. The same is true of the average incremental cost of category B. Moreover, the firm has common costs of \$20. Suppose that there are two services within category A, each of which has an incremental cost of \$4, and that the two services have shared costs of \$2, for a total of \$10. By unbundling services in category A, the shared costs and common costs of the firm rise by \$2 to \$22. In state arbitration proceedings under section 252 of the Communication Act, for example, entrants have requested incumbent LECs to engage in "subloop unbundling," so that pieces of the loop (such as the network interface device, or NID, on the side of one's home) can be obtained independently of a "NID-less" loop and other subelements. One would expect subloop unbundling to raise the incumbent LEC's proportion of unattributable costs.

23. Unbundling therefore has the effect of decreasing the proportion of costs that are attributable, and of correspondingly increasing the proportion of total costs that are classified as shared or common. To the extent that the degree of unbundling follows regulatory dictates, the resulting service definitions may bear little relation to technological and managerial measurements of costs. Consequently, it becomes increasingly difficult to identify the firm's underlying cost components. Reliance on regulatory accounting measures, based on regulatory service classifications and unbundling requirements, is likely

to cause inefficient decisions concerning the pricing of network components. That inefficient outcome is particularly likely to occur if, as one would expect, the packages of retail services that the LEC offered before the imposition of mandatory unbundling were intended to facilitate optimal management decisions about pricing and service offerings.

24. This effect of unbundling on cost calculations counsels regulators to take careful account of the interplay between unbundling requirements and the pricing of services, including interstate access. Competing carriers have an incentive to request pricing at incremental cost to the incumbent LEC as a means of obtaining network services in a manner that avoids paying for the LEC's shared costs and common costs. Further, by requesting a finer and finer partition of the incumbent LEC's services into unbundled components, competitors shift costs away from measures of incremental cost and toward measures of shared costs and common costs. In the limit, groups of services may individually have negligible incremental costs, even though as a group, their shared costs and common costs are significant.

25. TELRIC pricing thus creates a perverse incentive. Unbundling requests from competitors using LEC services may be strategic actions, rather than legitimate requests for access to network services. Competitors not only avoid paying a portion of shared costs and common costs, but also have an incentive to request ever finer partitions of services, and interconnection at every technologically feasible point, so as to shift costs farther away from incremental costs and into shared and common costs. This strategic opportunity allows competitors to free-ride on the incumbent LEC.

26. Market-based pricing avoids those perverse incentives because competitors must pay for the costs of the services that they purchase—both the incremental costs and a portion of the shared costs and common costs. By allocating shared costs and common costs in a competitively neutral manner, market-based pricing eliminates the incentive for competitors to make strategic requests for excessive unbundling. Instead, a competitor will purchase resale, unbundled network elements, interconnection, and interstate access on the basis of its market prospects rather than as an attempt to manipulate the regulatory

system.

4. TELRIC Pricing Fails to Include Increases in Shared Costs and Common Cost That Result From Unbundling

27. Unbundling has costs. The provision of resale services and unbundled network components entails two types of costs: transactions costs and production costs. Unbundling should not be an end in itself, for the bundling of products and services reduces customer transaction costs and enhances convenience. Access to a few types of local network elements is sufficient to achieve the objectives of deregulation. Competitive markets are capable of resolving the tradeoff between the need to customize offerings and the advantages of bundling. The costs of mandated unbundling must be reflected in estimates of the incumbent LEC's incremental costs, shared costs, and common costs and thus included in the prices for resale and unbundled network elements.

28. Peter Huber has emphasized that "unbundling imposed on a LEC service that faces competition will, at best, only raise prices and inconvenience customers."[11] With the many forms of competition in the local exchange, many unbundling regulations are rendered unnecessary. As Huber has noted, bundling in a competitive market is self-regulating: "If private branch exchanges (PBXs) compete directly against LEC-supplied Centrex service, then it makes no sense to order the unbundling of either. Suppliers of both PBXs and Centrex will bundle or unbundle as customers demand, or will quickly lose ground to more responsive competitors."[12] He has argued that regulators "should not unbundle 'interfaces,' 'functions,' or 'capabilities,' still less the billing and ordering systems used to sell them."[13] Regulatory commissions can achieve their open access goals with limited unbundling; they need only selectively target several points of entry to the local exchange network that are shown not to be competitive and then price that network access at compensatory levels.

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11. PETER W. HUBER, COMPETITION AND OPEN ACCESS IN THE TELECOMMUNICATIONS MARKETS OF CALIFORNIA (Feb. 8, 1994).

12. *Id.* at 7.

13. *Id.* at 112.

29. Unbundling entails transactions costs in comparison with goods and services that are sold together, because the firm must break down ordering, purchasing, billing, and pricing information for individual components. Most products and services offered by competitive companies are bundles of attributes or features. Customers also benefit from the convenience of purchasing a range of products and services from the same supplier that offers lower transactions costs through "one-stop-shopping" and bundling of products and services. Companies compete by offering packages of goods and services that enhance customer convenience.

30. For those reasons, many goods and services are sold as packages. Imagine buying an automobile or even a computer part by part. The final product not only is a physical package of components, but also is sold as a single product requiring only one set of transactions. Even when automobiles are customized with options, customers receive discounts when they choose standardized options packages. The greater the extent of standardization of bundles of features offered to either the customers or the competitors of the incumbent LEC, the lower will be the transactions costs associated with offering those features. Conversely, the more that regulatory commissions require that each retail service or network component be sold separately, or in individually customized service packages, the greater will be the associated transactions costs.

31. Excessive unbundling is not only inefficient and unnecessary. It entails product costs as well. To unbundle retail services and network components, the incumbent LEC often needs to install complex switching equipment and to provide additional interconnection facilities for competitors. As with transaction costs, the more such resale and access facilities can be standardized, the lower will be the associated costs. If unbundling and regulated pricing requirements shift the costs to the incumbent LEC, then competitors will have an additional strategic incentive to demand unique, customized wholesale and access services from the LEC.

32. The transaction costs and production costs due to unbundling represent *wholesaling* costs

for the incumbent LEC. The incremental wholesaling costs that are attributable to individual services or elements must be included in their prices. In addition, any increase in shared costs or common costs that result from unbundling also should be reflected in the prices for resale and UNEs. A competitive firm would not provide a service if it did not generate sufficient revenues to cover its costs. Regulators should account for wholesaling costs in their pricing rules. If competitors do not bear the full economic costs of the services that they purchase, they will not make efficient purchasing and investment decisions.

33. TELRIC pricing will capture wholesaling costs if and only if all of those costs are attributable. But it will not capture those transaction costs and production costs due to wholesaling that increase shared costs or common costs. Thus, TELRIC pricing will fail to reflect the full economic costs of unbundling.

34. The inefficiencies associated with the transaction costs and production costs of specialized services under mandatory unbundling are a problem when costs are shifted to the incumbent LEC's other customers or when the LEC is expected to shoulder those costs as a means of easing the transition to competition. Unbundling becomes an incumbent burden that potentially hinders the incumbent LEC's ability to compete and subsidizes new entrants, thereby distorting their decisions about how much to invest in competing facilities. Just as overpriced network services can induce inefficient bypass decisions, so also can subsidized wholesale services induce underinvestment in facilities and overuse of network components relative to less costly alternatives.

5. TELRIC Pricing Creates Incentives for the Incumbent LEC to Reduce Its Common Costs or Shared Costs

35. Because TELRIC pricing fails to compensate the incumbent LEC for its shared costs and common costs, adoption of such pricing would create an incentive for the LEC to reconfigure its network and change the structure of the company so as to increase the proportion of costs that would be attributable to those services priced at TELRIC, and to lower costs that would be classified as shared costs or common costs. This shift in the incumbent LEC's cost structure would not represent efficiency

gains: By lowering shared costs or common costs, the company would potentially increase *total* costs because it would lose some of the benefits of economies of scope. Moreover, the reductions in uncompensated shared costs or common costs that are necessary to enable the firm to break even could result in a lowering of the quality of service or the elimination of some services that are uncompensated. Thus, TELRIC pricing creates a situation that is ripe for the law of unintended consequences.

B. The Fallacy of Forward-looking Costs

36. In their affidavit in the initial round of comments in this proceeding, Professors Baumol, Ordover, and Willig state:

> In a competitive market, an asset's value is based on the future revenues it is expected to generate. The TELRIC principles adopted by the Commission replicate this stream of payments on an element-by-element basis. They reflect the economic costs, including a market-based return on capital, that an efficient entrant would encounter. In other words, TELRIC principles are fully compensatory of economic costs.[14]

The identification of the FCC's forward-looking costs with the incumbent LEC's economic costs or the expected future revenues of the LEC is incorrect. As Professor Alfred Kahn correctly observes in a letter to Chairman Hundt dated January 14, 1997:

> Advocates of the "blank slate" version of TELRIC typically assume that that is the level to which competition would drive prices, if it were effective. They are mistaken. In a world of continuous technological progress, it would be irrational for firms constantly to update their facilities in order *completely* to incorporate today's lowest-cost technology, as though starting from scratch: investments made today, totally embodying *today's* most modern technology, would instantaneously be outdated tomorrow and, in consequence, never earn a return sufficient to justify the investments in the first place.[15]

Professor Kahn further observes that

> the Commission's prescription reflects a presumption all too typical of regulators—declaring, in effect, "*we* will determine not what your costs *are* but what they *ought* to be." This approach has two major defects: first, that is not how the competitive process works; and second, its prices would actually discourage competitors coming in and building their own facilities when that would be more efficient that using the incumbent's facilities—which it was the clear intention of the new Act to encourage.[16]

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14. Baumol-Ordover-Willig Affidavit at 8 ¶ 16.
15. Letter from Alfred E. Kahn to Reed E. Hundt, Jan. 14, 1997, at 1-2 (emphasis in original).
16. *Id.* at 2 (emphasis in original).

37. This *Notice* and other recent orders and notices issued by the Commission contain a number of fallacies about economic cost. In this section, we identify and debunk those fallacies. Our main point is this: One should not base economic decisions on costs and benefits that are irrelevant to those decisions. Correspondingly, one should take into account all of the costs and benefits that each decision entails. Thus, when comparing two alternatives, one should compare the benefits and costs associated with each decision, not the benefits or costs incurred in the past, present, or future that are not directly caused by the decisions.

38. First, consider costs that already have been incurred and are not recoverable. The familiar "fallacy of sunk costs" refers to decision making that takes into account irreversible expenditures.[17] This is a fallacy because these expenditure do not affect the benefits and costs associated with later decisions; thus, such expenditure should not enter into one's decision-making process. After costs are sunk, economic decisions should be based on *quasi-rent*—that is, revenues net of avoidable cost. As we will emphasize below, sunk costs are related to obligations to preserve investment-backed expectations in private contracts and in the regulatory contract.

39. But cost fallacies need not center only on past costs. What we term the "fallacy of forward-looking costs" bases pricing and other economic decisions on future costs that are not related to those decisions, and it ignores costs that *are* related to that decision. The Commission's focus on "forward-looking cost" is intended to emphasize that the fallacy of sunk costs should be avoided—that is, only the avoidable or future cost of decisions should be taken into account. The Commission, however, gets so carried away with projected costs, that it recommends making decisions based on future costs that also are not affected by current decisions. Moreover, the fallacy of forward-looking costs ignores other costs that *are* affected by current decisions. The fallacy of forward-looking costs thus has two aspects:

17. *E.g.*, JOSEPH E. STIGLITZ, ECONOMICS 44–45 (W.W. Norton & Co. 1993).

(1) The decision maker takes into account costs that are irrelevant to the decision.

(2) The decision maker ignores costs that are relevant to the decision, especially opportunity costs.

40. What are forward-looking costs? In its *First Report and Order* on interconnection, the Commission defines forward-looking costs as "the costs that a carrier would incur in the future."[18] That definition is fine as far as it goes. The Commission then proposes three alternative measures for the cost of interconnection and unbundled network elements for local exchange carriers: (1) "the most efficient network architecture, sizing, technology, and operating decisions that are operationally feasible and currently available to the industry,"[19] (2) "existing network design and technology that are currently in operation,"[20] and (3) "the most efficient technology deployed in the incumbent LEC's current wire centers."[21] The Commission selected a measure that is a hybrid of Options 1 and Option 3 consisting of "costs that assume that wire centers will be placed at the incumbent LEC's current wire center locations, but that the reconstructed local network will employ the most efficient technology for reasonably foreseeable capacity requirements."[22] We will now consider how that measure of cost, which the Commission proposes to extend to this proceeding, manifests a number of economic fallacies.

1. Putting the Cart Before the Horse

41. A decision entails costs. The Commission, however, puts the cart before the horse *by embedding a decision within its definition of costs*. The decision is whether or not to expand capacity, contingent on two preconditions: that the LEC's current wire center locations are given, and that the LEC has fully flexible capacity. Not coincidentally, those two assumptions correspond to a model employed by AT&T and other IXCs known as the Hatfield model, which assumes a "scorched-node" network, as

18. *First Report and Order* ¶ 683.
19. *Id.*
20. *Id.* ¶ 684.
21. *Id.* ¶ 685.
22. *Id.*